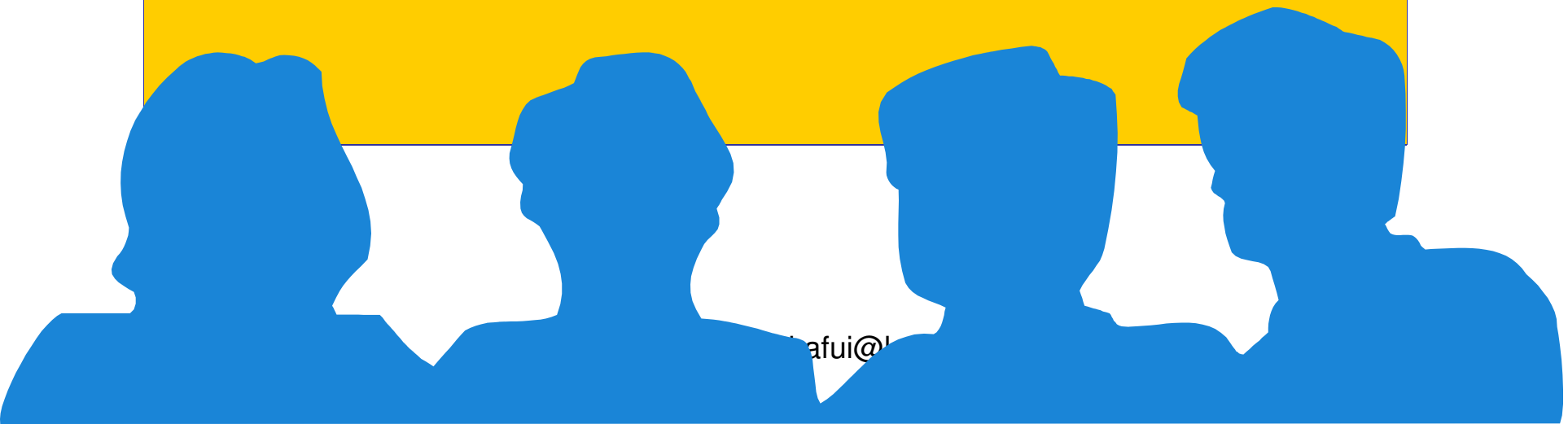


lesson 4

Alternative Methods Of Input

This lesson includes the following sections:

- **Devices for the Hand**
- **Optical Input Devices**
- **Audio-Visual (Multimedia) Input Devices**



Alternative Input Devices – Devices for the Hand

- **Pens**
- **Touch Screens**
- **Game Controllers**

Devices for the Hand - Pens

- With a pen-based system, you use an electronic pen to write on the screen and choose commands.
- Pens are common input devices for handheld computers, like “personal digital assistants (PDAs).”
- Pens are handy for making notes or selecting commands, not for inputting a lot of text.



**The user can point, tap,
draw and write on the
computer's screen with a
pen.**

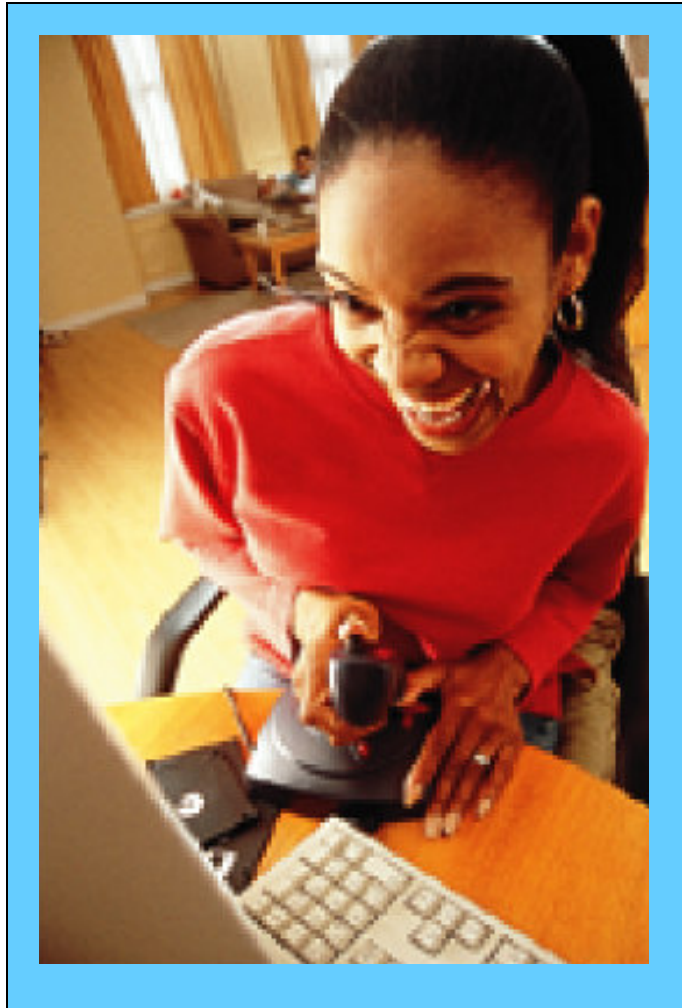
Devices for the Hand - Touch Screens

- **Touch-screen systems accept input directly through the monitor.**
- **Touch screens use sensors to detect the touch of a finger. They are useful where environmental conditions prohibit the use of a keyboard or mouse.**
- **Touch-screen systems are useful for selecting options from menus.**



Devices for the Hand - Game Controllers

- **The two primary types of game controllers are joysticks and game pads.**
- **Game pads usually provide controls for each hand.**
- **Joysticks are popular for flight simulator and driving games.**



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Alternative Input Devices – Optical Input Devices

- **Bar Code Readers**
- **Image Scanners and OCR**

Optical Input Devices - Bar Code Readers

- **Bar code readers can read bar codes—
patterns of printed bars.**
- **The reader emits light, which reflects off the
bar code and into a detector in the reader.
The detector translates the code into numbers.**
- **Flatbed bar code readers are commonly found
in supermarkets. Courier services often use
handheld readers.**



**Bar code readers
commonly track
sales in retail
stores**

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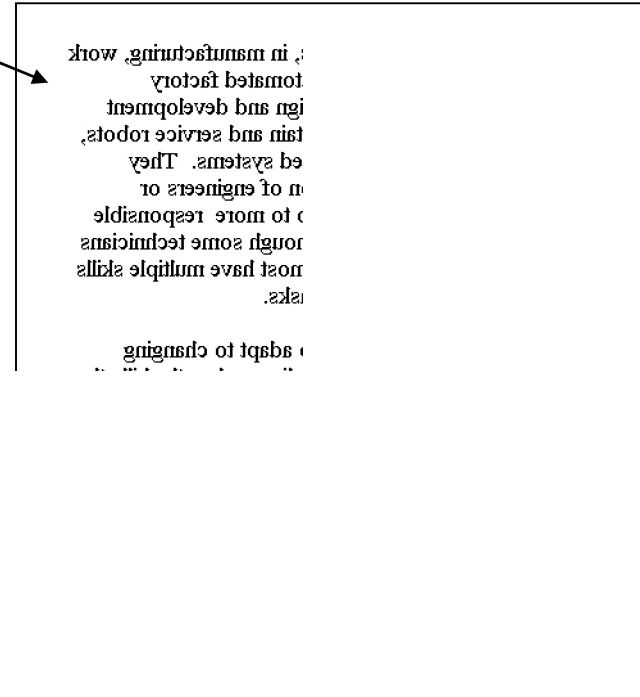
Optical Input Devices – Image Scanners and OCR

- **Image scanners digitize printed images for storage and manipulation in a computer.**
- **A scanner shines light onto the image and interprets the reflection.**
- **Optical character recognition (OCR) software translates scanned text into editable electronic documents.**

Document
being
scanned



Converts
diode signals
to numbers



Alternative Input Devices – Audio-Visual (Multimedia) Input Devices

- **Microphones and Speech Recognition**
- **Video Input**

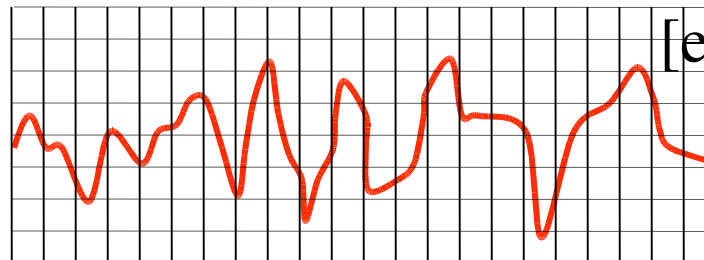
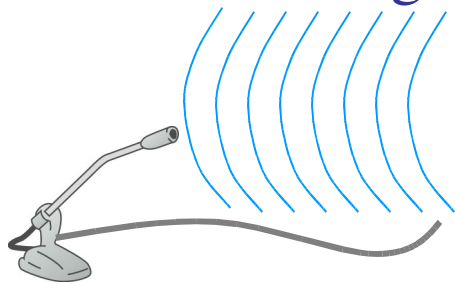
Audio-Visual (Multimedia) Input Devices - Microphones and Speech Recognition

- **Microphones can accept auditory input. A microphone requires a sound card in the PC.**
- **A sound card can digitize analog sound signals, and convert digital sound signals to analog form.**
- **With speech recognition software, you can use your microphone to dictate text, navigate programs, and choose commands.**

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Analog Sound Signals



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Analog Signals are Digitized

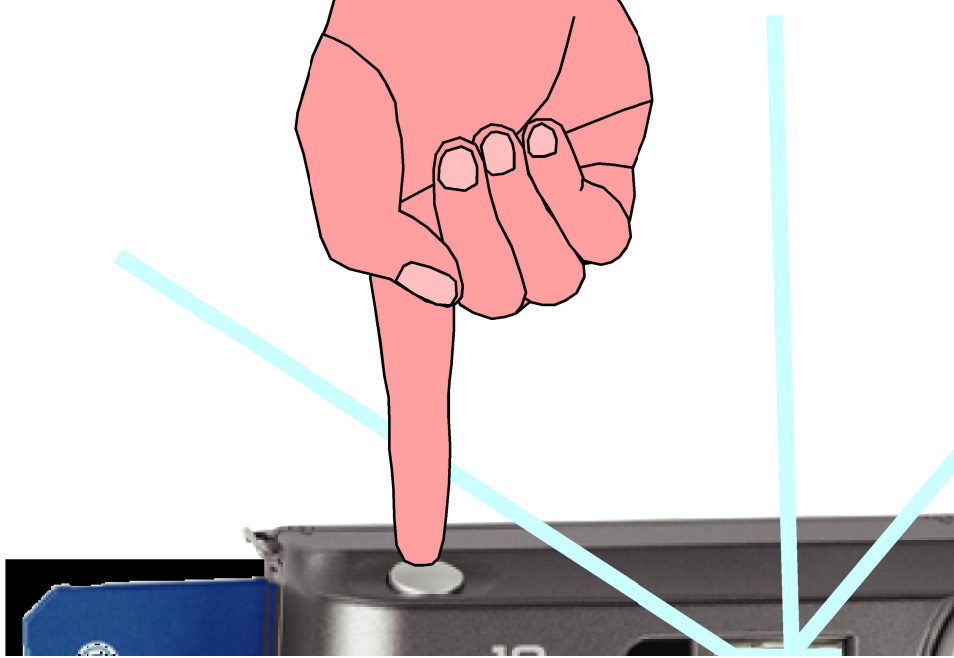
Digital Audio Output

[electrical signals]

(ex. 11100011) to
computer

Audio-Visual (Multimedia) Input Devices – Video Input

- **PC video cameras digitize full-motion images.**
- **Digital cameras capture still images.**
- **These cameras break images into pixels and store data about each pixel.**
- **Video images may be compressed to use less memory and storage space.**



Lesson 4 Review

- **List two reasons why some computer users prefer alternative methods of input over a standard keyboard or mouse.**
- **List three categories of alternative input devices.**
- **List two type of optical input devices and describe their uses.**
- **Describe the uses for speech-recognition systems.**
- **Identify two types of video input devices and their uses.**